34. A method according to claim 19 wherein said semiconductor device is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle-type display, a car navigation system, and a personal computer.

35. A method according to claim 21 wherein said semiconductor device is one selected from the group consisting of a video camera, a digital camera, a projector, a goggle-type display, a car navigation system, and a personal computer.--

REMARKS

Claims 5-35 are pending in this application. By this amendment, the specification is amended, and Figures 3A and 4A are corrected. In addition, Claims 5-6, 8, 10, 12-15, 17, 19 and 21-23 are amended, and new claims 24-35 are added. Reconsideration in view of the above amendments and following remarks is respectfully solicited.

I. THE DRAWING AND DISCLOSURE OBJECTIONS ARE OBVIATED

The drawings are objected to for failing to comply with 37 CFR 1.84(p)(5), 1.83(a) and 1.84(p)(4). In addition, the disclosure is objected to because of minor informalities. These objections are respectfully traversed.

Applicants respectfully submit that the amendments to Figs. 3A and 4A and the amendment to the specification obviates the objections noted above. Accordingly, withdrawal of the objection of the drawings and the disclosure is respectfully solicited.

II. THE CLAIM OBJECTION IS OBVIATED

The Office Action objects to: (1) claim 13 as being of improper dependent form; (2) claims 12 and 14 as being a substantial duplicate of claims 5 and 6; (3) and claims 15-18 as being a substantial duplicate of claims 8-11. These claim objections are respectfully traversed.

Applicants respectfully submit that the amendments to claims 12, 13, 14, 15 and 17 obviate the objections of claims 12, 13, 14 and 15-18. In particular, claim 13 is amended to further limit the subject matter of the previous claim. Claims 12 and 14 are amended to so as to be distinguishable from claims 5 and 6. Claims 15 and 17 are amended so as to be

distinguishable from claims 8-11. Accordingly, withdrawal of the objection of claims 12, 13, 14 and 15-18 is respectfully solicited.

III. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

The Office Action rejects: **(1)** claims 5, 6, 8-10, 12-17 AND 19-22 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,616,506 to Takemura; and **(2)** claims 7, 11, 18 and 23 under 35 U.S.C. §103 as unpatentable over Takemura in view of U.S. Patent No. 5,888,857 to Zhang et al. further in view of Dorin. These rejections are respectfully traversed.

Applicants respectfully submit that Takemura, either alone or in combination with Zhang and Dorin, fails to teach or suggest each and every feature as set forth in the claimed invention. In particular, the cited references fail to teach or suggest a first heat treatment to transform amorphous semiconductor film into a crystalline semiconductor film by irradiating an ultraviolet light or an infrared light, as set forth in independent claims 5, 8, 12, 15, 19 and 21-23.

The present invention relates to a method of performing a crystallization process for an amorphous semiconductor film. In particular, the method of the present invention comprises the steps of adding a catalytic element to the amorphous semiconductor film, carrying out a first heat treatment to transform the amorphous semiconductor film into a crystalline semiconductor film by irradiating an ultraviolet light or an infrared light, and carrying out a second heat treatment for the crystalline semiconductor film at 900 to 1200°C in a reducing atmosphere.

In contrast, Takemura '506 fails to teach or suggest a first heat treatment to transform amorphous semiconductor film into a crystalline semiconductor film by irradiating an ultraviolet light or an infrared light. Even if Takemura '506 discloses an infrared light (column 8, line 63), Takemura '506 does not disclose to use the infrared light at the first heat treatment as set forth in the claimed invention.

Moreover, the Office Action asserts that Takemura '506 discloses a second heat treatment in a reducing atmosphere that contains hydrogen (column 7, line 5). It appears that the Office Action contends that C1 is a reducing atmosphere. However, Applicants submit that C1 is not a reducing atmosphere but an oxidizing atmosphere, and the Office Action's contention is incorrect. Furthermore, Takemura '506 discloses that HC1 may be added to the oxidizing atmosphere (column 7, lines 1-5). On the other hand, in the claimed invention, the second heat

treatment of claims 8 and 15 is carried out in a reducing atmosphere containing a halogen element.

The Office Action also contends that Zhang '857 discloses that the annealing for crystallization can be done in an atmosphere of hydrogen and nitrogen without oxygen. However, Applicants could not find any teaching in Zhang '857 that discloses to carry out the second heat treatment in the reducing atmosphere as claimed in the present invention. Therefore, Zhang fails to make up for the deficiencies found in Takemura and thus the claim rejection over Takemura '506 in view of Zhang '857 in further view of Dorin is improper. Dorin also fails to make up for the deficiencies found in Takemura.

Applicants respectfully submit that claims 5-35 are allowable over Takemura, Zhang and Dorin. Accordingly, withdrawal of the rejection of claims 5, 6, 8-10, 12-17 and 19-22 under 35 U.S.C. §102(b) over Takemura and claims 7, 11, 18 and 23 under 35 U.S.C. §103(a) over Takemura, Zhang and Dorin is respectfully solicited.

IV. CONCLUSION

In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

NIXON PEABODY LLP

Eric J. Robinson
Reg. No. 38,285

EJR/CTB/lfm
Attorney Docket No. 0756-1998

NIXON PEABODY LLP
8180 Greensboro Drive, Suite 800
McLean, Virginia 22102
Telephone (703) 790-9110